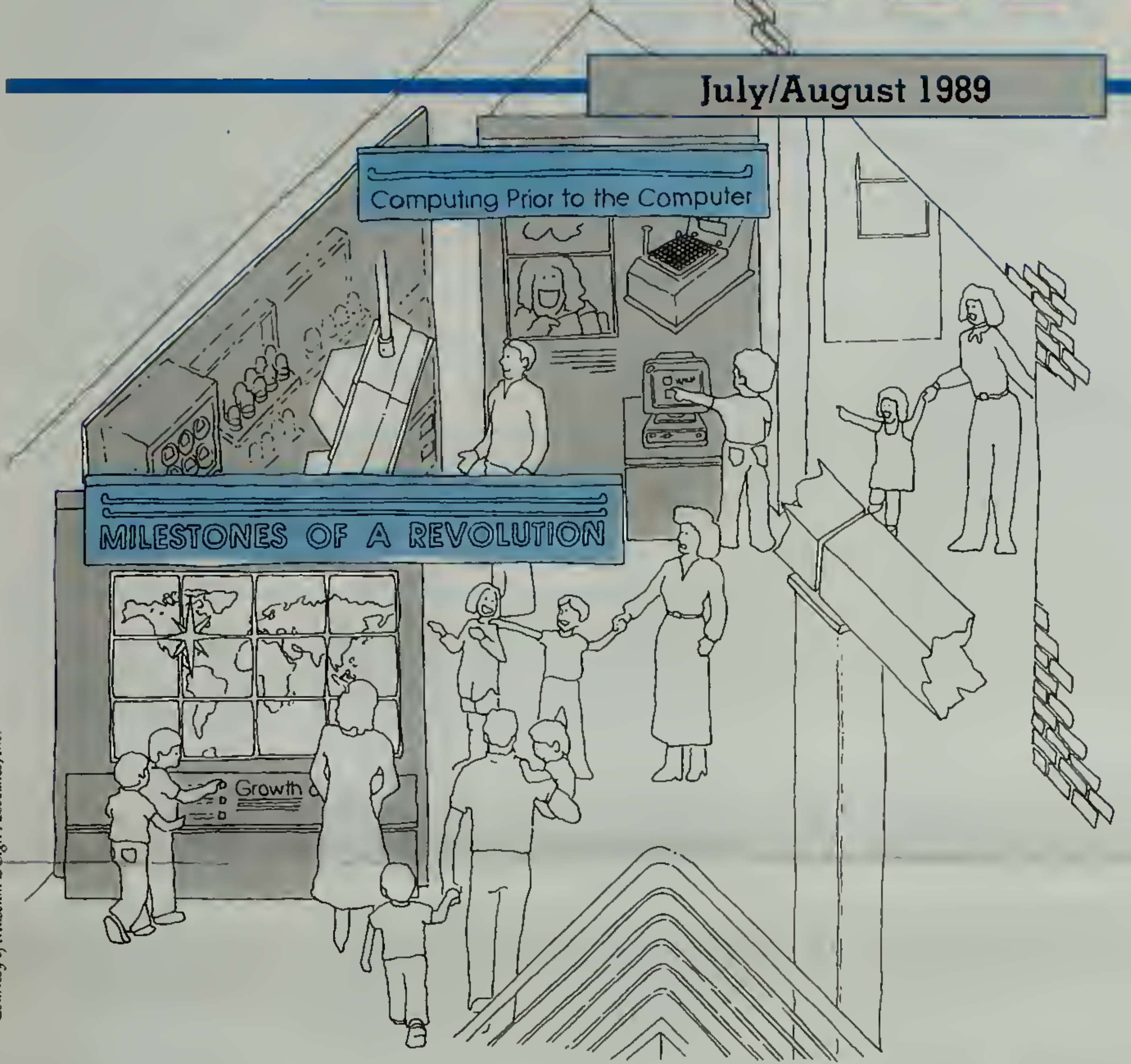
The Computer Museum

NEWS

July/August 1989



Courtesy of Museum Design Associates, Inc.

Milestones of a Revolution

The Computer Museum plans to build a dramatic new multimedia, interactive exhibit, "Milestones of a Revolution," a 3,750 square foot, $1.5 million effort.

"Milestones" will integrate artifacts, video displays, and working computers to create rich educational environments that respond to visitors' hunger to learn "where computers come from" and how they impact the way we think, work, and live.

The stage for the Revolution will be set by a large animated map of the world. It will graphically display the growth of the computer population from 1945 to the present. The first 20 years will show the slow growth, the second 20 years, the increasingly rapid multiplication, and the last five years, the explosion that created the Revolution.

The exhibit's most important interactive element, "The Interactive History Navigator," will exploit the latest advances in hypermedia, graphics, and animation. Visitors will be able to travel back and forth in time and through related events, using special software designed for this exhibit.

The first milestone will provide the pre-revolutionary setting, the next three will focus on the foundation for a revolution: the invention of the hardware, the creation of an industry, and the development of computer languages. The treatment of the revolution itself starts with two vignettes that feature the IBM System 360 and embedded minicomputers for process control. And today's world will be reflected by vignettes on supercomputing, personal computing, and the ubiquitous computer.

Over one-third of the cash cost of $750,000 has already been raised from corporations and individuals. The Computer Museum is now looking for additional partners for cash and in-kind support. The hope is that—with secured funding— Milestones of a Revolution will open by late 1990.

A Chip

The Inside Story

A giant, eleven foot by eleven foot, multicolored plot of a chip has recently been put on display. Even though the chip—an AMD 29000 microprocessor—is magnified 330 times, the naked eye can barely see the smallest of its 220,000 transistors. The plot, which took 16 hours to produce, and the actual chip are exhibited in the Image Gallery.

In appearance, the computer plot rivals the complexity of a street map of New York. Like a city, the computer data paths flow along rectangular paths around the blocks of transistors holding memory and programs. Looking at the enlargement, visitors can find other clues to the story. The initials of all the members of the design team appear in the lower right section. The plot carries the outline of two Texas flags because the chip was fabricated in the Lone Star State.

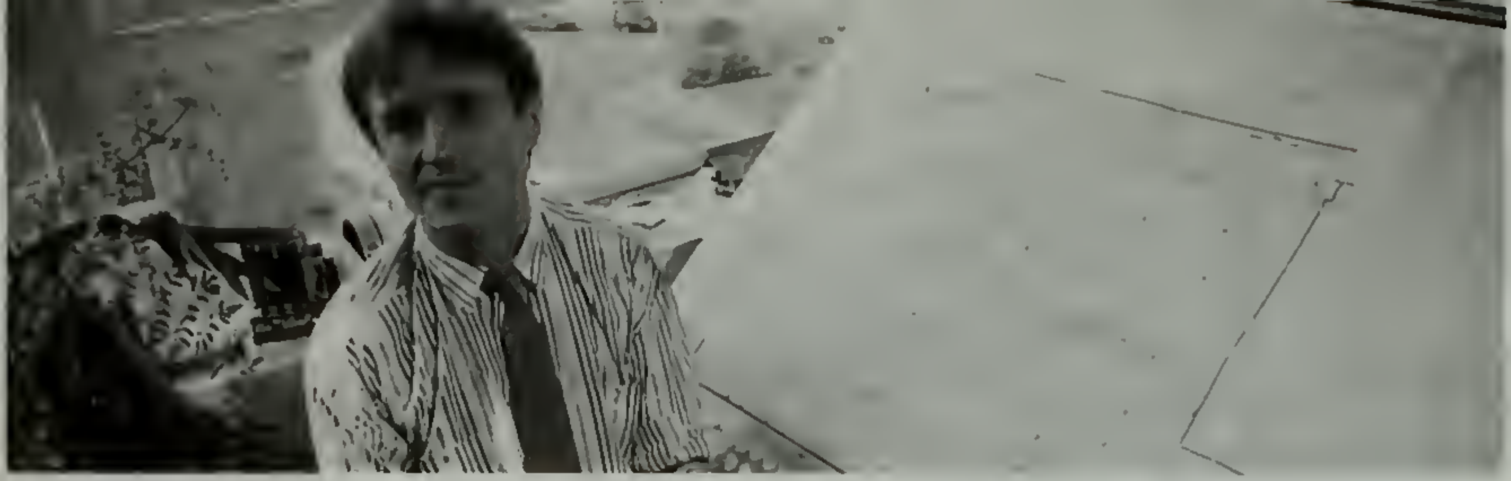
The designers also included a martini glass (with a dragon-slayer sword in the olive) at the top center of the plot because the department designing the chip was the Streamline Instruction Processor Group, nicknamed "S.I.P." A dragon represented AMD's competition, and employees who excelled were "knighted" with a dragon-slayer sword.

Mike Johnson, AMD's chief architect of microprocessor design, led the 34-person design team. They began work in the spring of 1985, fabricating the first test chip in the summer of 1987. The complexity of such chips, with more than half a million components, requires the use of computer-aided design and modeling. Johnson said that without these tools the design would have taken 20 years.

AMD 29000 microprocessors are used primarily as high speed controllers for laser printers, graphics workstations, and telecommunications.

▶ *From the left: Mark Allen of Boris Master Color, designer Mike Johnson, with Museum member and Advance Micro Devices District Sales Manager Tony Rea (who arranged for the computer generation of the plot), and Museum Exhibits Specialist Tom Merrill.*

NEW FACES



to courtesy of National Museum of Photography Film and Television

▲ *Richard Fowler, visiting designer from Great Britain, is working with former colleague and countryman Oliver Strimpel to create exciting new exhibits.*

Richard Fowler joined The Computer Museum as visiting designer June 1, 1989, to work on new exhibits that address the history of computing, computer technology, and the applications and impact of computing. He is on a one-year sabbatical from the National Museum of Photography, Film and Television (NMPFT) in Great Britain. An outstation of The Science Museum, London, NMPFT was named "Museum of the Year" in 1988.

"We plan to couple his flair for design with the technical and educational expertise of the Museum staff and distinguished university and industry experts," explains Curator Oliver Strimpel. "Richard's exceptional ability to translate technical fields into engaging, educational 3-dimensional exhibits and environments will help explain computing, a subject that has aspects that are not intrinsically visual or 3-dimensional."

Among his most successful and innovative projects, his gallery on television has re-created a working newscast where visitors can be interviewed before a TV camera and possibly see themselves on national TV. With Strimpel, Fowler also created a permanent gallery in 1983 for NMPFT, "Seeing the Invisible," which explored many worlds beyond the reach of the unaided human eye.

At The Science Museum's gallery on Nuclear Power and Nuclear Physics, he designed a scale model of an entire nuclear reactor into which visitors could walk. At The Computer Museum, Fowler's ability to visualize complex technologies will be applied to the design of a giant, working walk-through computer, which will show Museum visitors how a computer actually works. They will be able to walk over the keyboard, pressing keys that activate a giant screen, and will be able to see the disk drives and circuit boards in action inside the computer. The microprocessor will be enlarged to human scale and interactive "portholes" will explain parts of the story in more detail.

Farewell...

When I became Executive Director of The Computer Museum early in 1987, I based my decision on a deep belief in the importance of the Museum's mission, the excellence of its programs, and the strength and commitment of its staff and Board of Directors. With the work and support of many individuals and companies, the Museum has come through the inevitably difficult early years intact and sits poised and ready to enter the next stage of its development. This is a time that offers an exciting challenge for new leadership.

Martha Everson

▲ *Departing Executive Director Joseph F. Cashen is "more convinced than ever of the Museum's bright future."*

That is why I feel comfortable about my decision to leave the Museum this fall and return to an active role in the computer industry. It has been extraordinarily satisfying to have been part of the change and growth over the last two-plus years. Without question, I am more convinced than ever of the Museum's bright future.

In the last few years, the transition has been made from serving tens of thousands to serving hundreds of thousands. Traveling exhibits, exhibit kits, educational outreach; and The Computer Bowl, seen on over 175 PBS television stations, have done this. Strategic alliances have been created with the ACM, ACM SIGGRAPH, NECC, AAAI, NCGA, and BCS. These professional and user groups provide strong support for activities and help us reach out to new audiences and educate the public.

It has been, and promises to be, an exciting time. Although I will miss having a daily role in building the Museum, I'm proud to have participated in laying the foundation. I'm saying not goodbye, but instead, hello to all of you whose ranks I'll join as a Museum friend and supporter.

Sincerely,

Joseph F. Cashen

Joseph F. Cashen

The Computer Museum *NEWS* (July/August 1989) **Contributors**: Gwen Bell, Joseph F. Cashen, Janice Del Sesto, Valerie Freitas, Robert Gates, Linda Holekamp, Mark Hunt, Kathy Keough, Adeline Naiman,Pat Collins Nelson, Tom Restivo, Christina O' Sullivan, Oliver Strimpel, Greg Welch. **Editor**: Gail Jennes **Staff Photographer**: Linda Holekamp **Design & Layout**: DesignSystems. The Computer Museum *NEWS* is published six times per year by The Computer Museum, Museum Wharf, 300 Congress Street, Boston, MA 02210, (617) 426-2800. The *NEWS* is complimentary with Museum membership. Printing courtesy of Cigna Systems; Photo processing courtesy Boris Master Color. Typesetting courtesy of Advanced Computer Graphics.

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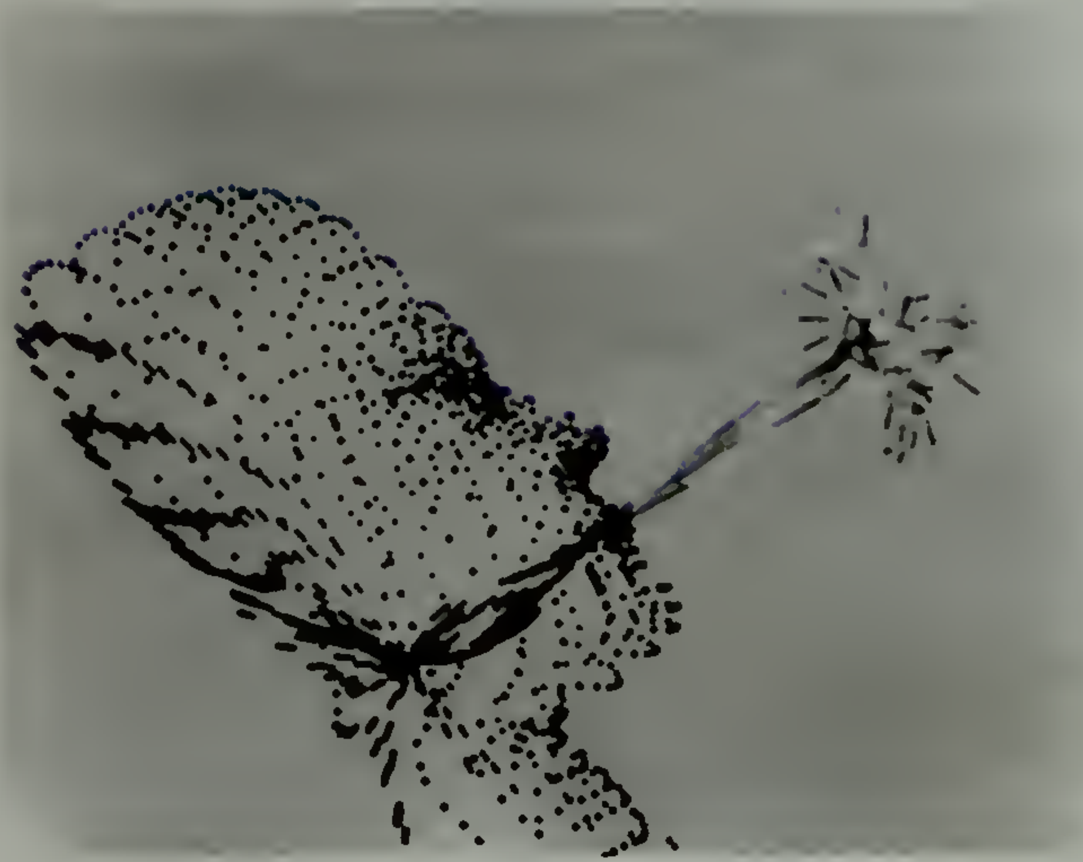
Scene from Particle Dreams, one of the new additions to the Animation Theater program.



Karl Sims, Optomystic

Animation Theater Enhanced

The Computer Museum has updated its Computer Animation Theater program to include the latest computer-generated animation. One of the Museum's most popular exhibits, the award-winning John William Poduska, Sr. Computer Animation Theater is one of the few places where the general public can routinely see state-of-the-art computer animation.

These exciting and entertaining films were selected by Curator Oliver Strimpel on both artistic and technical criteria. A highlight of the 30-minute show is *The Great Train Rubbery*, by Brian Wyvill. In this whimsical piece, a charming steam engine pulls a train through a cotton-wool landscape, enacting a humorous twist on the traditional western train-robbery plot. The objects bend and flex, and, when the train robs the bank, they actually fuse into one another.

Karl Sims's *Particle Dreams* depicts the flow of water by displaying motions of thousands of droplets. This was achieved by modeling each droplet on one of the processors of the Connection Machine, a massively parallel computer with 64,000 processors.

In addition, the theater itself has been totally remodeled, complete with new, more comfortable seating and a larger screen. A video laserdisc with a high-power beam projector insures high-quality shows every half hour.

Seniors Paint the U.S.A.

That's what Bill Grim did, when Adeline Naiman, the Museum's Director of Education (standing), gave him (sitting at terminal) and 20 other members of the Lincoln, Massachusetts Council on Aging a tour of the Museum earlier this year.

Grim explored how a computer recognizes the human voice at the "Paint the United States" geography game in the Smart Machines Gallery, one of the Museum's 60 interactive exhibits. Calling himself "probably the one electrical engineer in the world who's not computer oriented," he was "fascinated to talk to a machine that responded sensibly." His wife Bea, also on the tour, wants to return to the Museum to have "more chance to play on the machines." A retired librarian, she admitted to having had little experience with computers.

"Many of the group had grown children and grandchildren who deal with computers," says Naiman. "They wanted to be able to catch up."

Special tours are available to groups of interested seniors. The Museum also has reduced admissions for them and students.

THE COMPUTER SHOW
Animation
July 1-4, 1989

MEET THE BOARD

▲
Smithsonian Curator Jon Eklund urges the Museum to continue its efforts to help people "make friends with the future."

Jon Eklund:

Smithsonian Curator Says Computer Museum is Vital

"The Computer Museum represents the past, present, and future of one of the largest technological revolutions in human history," says Dr. Jon Eklund. A member of the Board since 1988, he is Curator of the Division of the History of Computers, Information and Society at the Smithsonian Institution's National Museum of American History.

Eklund is especially interested in how museums can promote technological and scientific literacy. He wants The Computer Museum to help people of all ages "make friends with the future." A graduate of Yale College with an MA in physics and a Ph.D in the history of science and medicine, Eklund was Curator of the History of Chemistry and Materials at the Smithsonian from 1967 to 1987. Since he bought his first personal computer in 1977, he has become fascinated as the technology has become smaller, faster, more powerful, and less costly.

In 1987, The Computer Museum and the Smithsonian signed a joint collecting agreement, which formalized a "history of informal collaboration" between the two institutions.

"All of us at the Museum of American History have benefited from our association with The Computer Museum since its Boston opening in 1984. Dr. Arthur Molella, chairman of the Smithsonian's Department of the History of Science and Technology, was on the Board until last year and helped forge the agreement between the two institutions. The two museums are working on a catalog including collections held by IBM, Digital Equipment Corp., Cray Research, and others. Part of the project is a 'survivors survey' to find out what early machines are still in existence. I also meet with the other members of the Collections Committee two or three times a year to review the progress of the collection. So far, I've found the Museum to be thoughtful and circumspect in its collecting."

Responsible for a variety of exhibits at the Smithsonian, he describes his role at The Computer Museum.

"I hope having another museum presence on the Board can be helpful in evaluating the Museum's progress. Perhaps, I can serve as a bridge between the museum and business worlds. They do have similarities. A business creates a prototype, clones it, and sends it out to the public. We create a prototype and then run people past it."

Eklund believes the Museum's small staff has done a "remarkable job" getting it up and operating. He is enthusiastic about the plans for the future, especially the proposed exhibits.

"There's a lot of energy, imagination, and originality at The Computer Museum. With one or two more galleries of the same quality as the excellent Smart Machines Gallery, people should be breaking the doors down to get in. For example, with a little enhancement, the graphics exhibition could be very popular and could give the Museum's visitors advance notice and understanding of some important future impacts of the computer. The exhibit could easily make clear that with new graphics technology anyone can now communicate with images as well as words. This may well be as big a revolution as the one caused by the invention of the printing press."

A Capitol Exhibit...

On April 27, 1989, The Computer Museum joined 15 other science centers from across the country to create an all-day "hands-on science museum" on Capitol Hill for members of Congress. The Association of Science-Technology Centers sponsored the event during National Science & Technology Week in Washington, DC.

Thanks to help from SPOT Image Corporation, the Museum featured an exhibit on digital satellite imagery with large-scale color images of Washington, Boston, and Cape Cod and text on some of its practical uses.

"This is one of a growing number of programs designed to share the Museum's resources with audiences outside Boston," said Pat Collins Nelson, National Chair of The Computer Bowl Program, the biannual fundraiser for the Museum's educational program. She and husband David, a Board Member, represented the Museum on the Hill for a day.

"We were gratified by the enthusiasm of Congress and their responsiveness to the need for science education," she reported. Massachusetts Senators Edward Kennedy and John Kerry and Rep. Chester Atkins were Honorary Congressional Sponsors of the event.

"The participating museums shared a common cooperative mission—educating the public about the importance of science education," said Pat. Other exhibitors included the National Geographic Society and the National Museum of American History.

"Congress needs to know how museums are improving science education. There's nothing like seeing it yourself hands-on!" said Ellen Griffee, ASTC government relations director.

Science museum directors, teachers, and children joined members of Congress, their staff, and families to explore the exhibits and to honor 51 teachers from the United States, Norway, and India. Sponsored by the National Science Foundation, National Science Week fosters public understanding of and interest in science and technology.

An exhibition of 40 SPOT images is available for $1800 ($1500 for ASTC members). Call Tracey Prendergast at ASTC, (202) 371-1171 for booking information.

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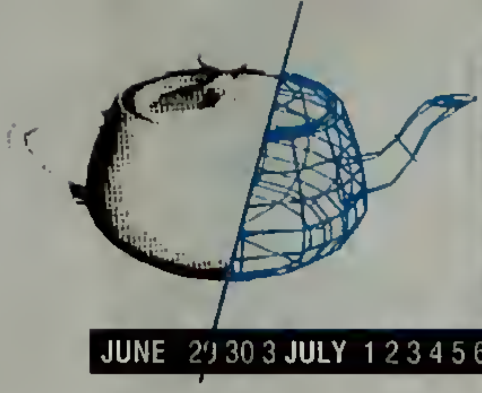
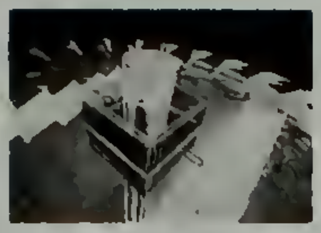




THE COMPUTER SHOW Animation

JUNE 29 30 3 JULY 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 AUGUST 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28

UPCOMING EVENTS

29 EXHIBITION

Thursday, June 29, 1989: 6:00 pm
Members' Preview Reception **"Computer Art in Context: SIGGRAPH '89 Art Show"** Sponsored by Sun Microsytems
Special Presentation of Sun386i.
Museum Store open.

30

Friday, June 30 through Tuesday, September 5, 1989
Public Opening
"Computer Art in Context: SIGGRAPH '89 Art Show" An exhibition of spectacular new computer art from artists around the world. The show features 2- and 3- dimensional works, kinetic sculpture, interactive environments where visitors can take part, installation pieces, animation, and polydimensional works on videotape. Exhibition juried by panel of international artists and curators.

1 SPECIAL EVENT

Saturday-Monday, July 1-4 Weekend: 10:30am-4:30pm
"The Computer Animation Show" The fantastic world of electronic animation presents cunning creatures, astounding features, and the latest 3-D character animation in one of the best movie marathons around. Dazzling images capture worlds as tiny as the electron and as big as the universe. This "Who's Who" of state-of-the-art computer-generated graphics and animation from around the world will amaze all who see it. The 90-minute computer fantasia runs continuously. In the auditorium.

SUMMER HOURS: Visit The Computer Museum DAILY, 10am to 5pm (Fridays until 9pm). Public tours Saturday and Sunday at 1:30 and 3pm.

ADMISSION: Adults $5.00, students and elders $4.00. Half price Friday evenings. Free to Museum members and children under five.

For more information, call our talking computer at **(617) 423-6758**.

The Computer Bowl

N Days And Counting...

To sharpen your wits in preparation for the Second Annual Computer Bowl in 1990, the *NEWS* tried to stump you with these technological teasers in the last issue:

What's the significance of the following date—January 12, 1992? And...what will happen on Friday, April 27, 1990? The answer to the first: January 12, 1992, is the day the computer HAL became operational in *2001: A Space Odyssey*. The answer to the second? April 27, 1990 is the date of the Second Annual Computer Bowl! Read all about it in the next issue of the *NEWS*. Here's the next teaser:

Which popular computer was introduced in a one-time television commercial during Super Bowl XVIII?

Look for the answer in the September/October *NEWS*.

To Join:

Members get free admission for one year; The Computer Museum *NEWS*, a bi-monthly newsletter of Museum activities; the *Annual*, a richly illustrated journal of computer history; invitations to exhibit previews and member-only events; advance notice of exhibitions and lectures; a 10% discount on purchases over $5 in The Computer Museum Store; and the opportunity to buy admission pass booklets at significant savings.

Individual Memberships	**Family Memberships**	**Contributing Memberships**
☐ $30 One-year	☐ $45 One-year	☐ $500 Donor
☐ $50 Two-year	☐ $80 Two-year	☐ $250 Sponsor
☐ $20 One-year student*		☐ $100 Friend

Yes, sign me up! My check, payable to The Computer Museum, is enclosed in the amount of $__________.

Or, charge my ☐ MasterCard, ☐ Visa, ☐ American Express.

Card# ________ Expiration Date _____ Signature ____________

Name ____________ Name for 2nd Family Card ____________

Street________________________

City/State/Zip____________ Telephone (__) ____________

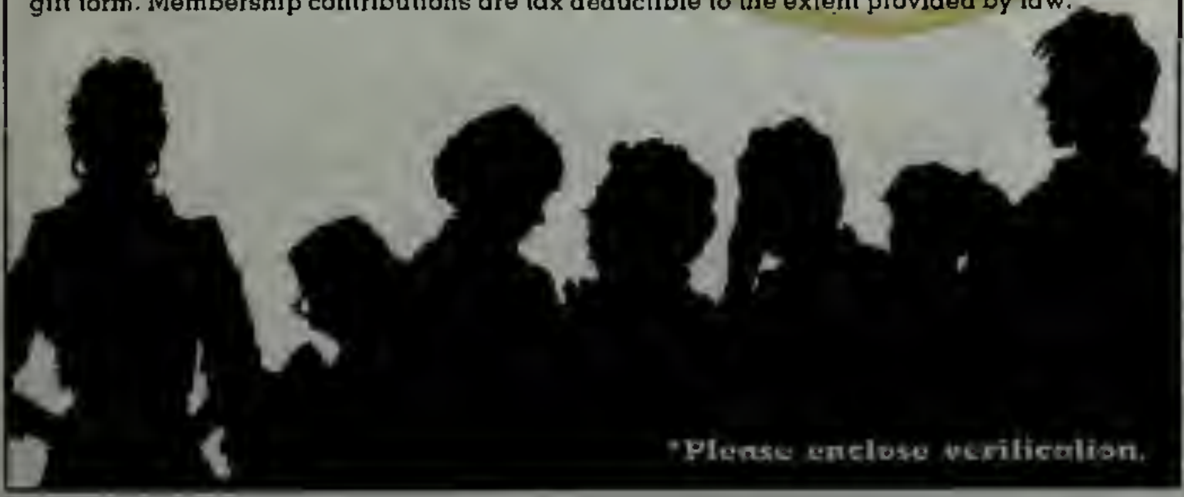
Company Name________________________

Street________________________

City/State/Zip____________ Telephone (__) ____________

☐ Please contact me about volunteering at the Museum.

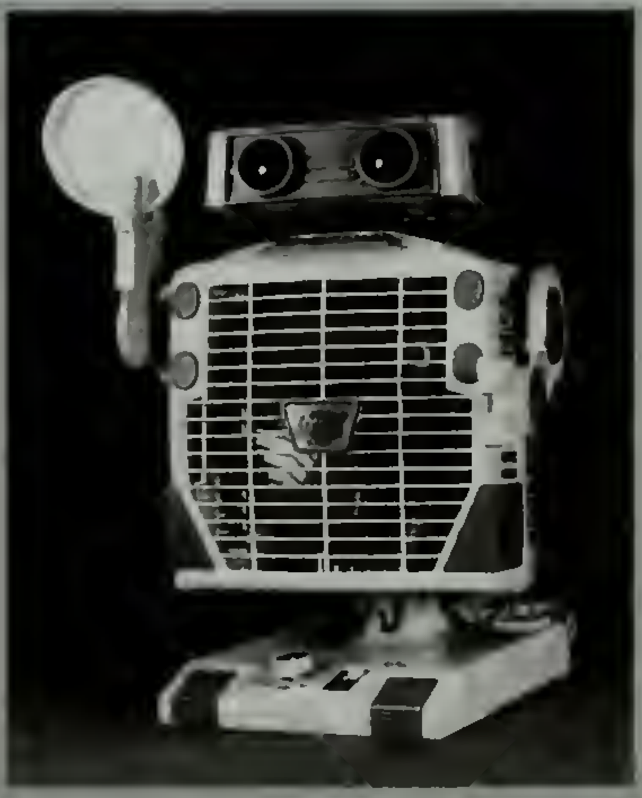
Will your company match your gift? ☐ Yes ☐ No If yes, please send appropriate matching gift form. Membership contributions are tax deductible to the extent provided by law.



*Please enclose verification.

A Fan For All Seasons...

To cool things off this summer, The Computer Museum Store has just what you need—Robo the Fan—a 13-inch tall, robot-like fan with two speed settings. With movable arms and eyes that light up, Robo looks like the loyal fan that he is. Great for kids of all ages, Robo makes a good nightlight in the winter too! Cost is $32.00 (Members, $28.80). To order, call (617) 426-2800, extension 307.



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